

5PP

OPPT-2002-0060-0020

Revision of 5/17/99
INITIAL REVIEW ENGINEERING REPORT

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OPPT CBIC

CBI: Yes

PMN: 99-44

PV (kg/yr):

ENGINEER: 1999 MAY 25 AM 9:38
SUBMITTER: Prothero

USE: Bonding agent for sand used in foundry processes.

OTHER USES: Analog P-94-0076: metal coating

Revision Notes: No estimates revised, but media of release characterization and discussion were changed for USE.

MSDS: Yes

Label: No

General Eqp.:

Respirator:

Health Effects:

TLV/PEL (PMN or raw materials):

CRSS:

Chemical Category: Formaldehyde, polymer with phenol and
1,2,3-propanetriol, methylated

VP: <1E-06 torr @25°C

S-H₂O: <0.001 g/L

MW: 345 68%<500 81%<1,000

Phys State: Neat: liquid Mfg: liquid Proc/Form:
solution End Use:
destroyed

Consumer Use: No

SAT (concerns):

Ground Water: rapid

Health: 1-2 inhalation, dermal, ingestion, and drinking
water; XB: Testing desired.

Eco: 3 all releases to water; XB: Testing desired.



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1999 MAY 25 AM 9:11

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PMN: 99-44

OCCUPATIONAL EXPOSURE RATING: 1-2

ASSUMPTIONS: Ref past cases P93-1398, P94-1484 (same submitter, same use).

Use calculations in P990044.wk4. Used info from Contact Report of 2/24/99 (EETD/CEB) and submitter fax and letter to Loraine Passe (CCD/NCB) dated 2/25/99 and 5/6/99, respectively.

POLLUTION PREVENTION CONSIDERATIONS: Traditional foundry resins are frequently difficult to remove from the casting. The use of this resin can alleviate these problems in foundry operations. This can generate time and energy savings in processing castings. Less raw material will be used, based on the net tonnage of good castings produced.

EXPOSURE-BASED REVIEW

Yes (0 criteria met)

- | | | |
|---|-----|---|
| 1) # of workers exposed (>1,000?): | 200 | N |
| 2) >100 workers with >10 mg/day inhalation exposure : | | N |
| 3) >100 workers w/1-10 mg/day inh. exp. & >100 days/yr: | | N |
| 4) Routine Dermal Cont: >250 workers & >100 days/yr: | | N |

PMN: 99-44

USE: in metal casting molds

Site/Location:
basis:

Days/yr: 230

Process Description:

ENVIRONMENTAL RELEASES (Eqpt. cleaning, container residue, etc.):

INCINERATION and/or LANDFILL and/or WATER (see RELEASE NOTE)
< 95 kg/site-day over 3 Day/year for 4 large sites

AND

0.32-4 kg/site-day over 10(avg)/15(max) days/yr for 3 small sites

AND

0.32-4 kg/site-day over up to 42 Days/year for 1 other small site
from: tanker cleaning (lg sites)/rinse drums (sm sites)
(If any water, to: on-site WWTP or POTW)

basis: CEB est 0.2% loss from tanker cleaning, 80,000 kg/
tanker @ 59% PMN, 3 tankers/site-yr for each large site;
drum residual of 1.2 lb (2/25/99 fax) to 3% (CEB std est),
480 lb/drum product (2/25/99 fax) @ 59% PMN, 1 empty drum/
day cleaned; no release from 15 sites using totes

RELEASE NOTE: Of the three possible release media, incineration
is expected to be most likely, although some fraction of these
release may go to landfill and/or water.

According to the 5/6/99 letter, the PMN becomes gum-like in
water, which would make aqueous cleaning less effective and less
likely. Drums for the 3 small sites are normally expected to be
returned to submitter site from which residues will be
incinerated (see 2/24/99 Contact Report and 5/6/99 letter).

(RELEASE NOTE continued next page)

PMN: 99-44

USE: continued

ENVIRONMENTAL RELEASES (continued)

RELEASE NOTE (continued):

drums/yr is based on a current customer of similar product to be replaced by the product with PMN. This customer is in bankruptcy and is expected to fail. The submitter expects that a site with similar need for drums will not arise. (See 2/24/99 Contact Report.) As with the other 3 small sites, drum residuals from this site may be more likely to be incinerated, although the possibility of caustic washing of drums does leave the possibility of some landfill and water releases.

Also, the submitter provided a data summary of testing to measure drum residuals in a 2/25/99 fax. These data may be more representative of actual residual levels than CEB's conservative "RCRA empty" residual levels.

AIR: negligible (VP < 0.01 torr, liquid)

OCCUPATIONAL EXPOSURE

Tot. # of workers:
Days/yr: 230

Inhalation:

Dermal: